IDENTIFICATION OF GENES ALTERED IN MULTIPLE MYELOMA

Abstract of the Invention

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method of determining This invention provides а chromosomal breakpoint in a subject suffering from multiple myeloma which comprises steps of: (a) obtaining a DNA sample from the subject suffering from multiple myeloma; determining whether there is J and C disjunction in the immunoglobulin heavy chain gene in the obtained DNA sample; (c) obtaining a genomic library having clones which contain genomic DNA fragments from the DNA sample which shows positive J and C disjunction; (d) selecting and isolating clones of the obtained library which show positive hybridization with a probe which is capable of specifically hybridizing with the C but not the J region of immunoglobulin heavy chain gene; (e) preparing fluorescent probes from the genomic DNA fragments of the isolated clones from step (d); (f) hybridizing said fluorescent probes with metaphase chromosomes; and (g) determining the identity of the chromosomes which are capable of hybridizing to said probes, wherein the identification fluorescent chromosome other than chromosome 14 would indicate that the chromosomal breakpoint is between chromosome 14 and the identified chromosome, thereby determining a chromosomal breakpoint in a subject suffering from multiple myeloma. This invention also provides the identified gene altered by a chromosomal breakpoint and various uses thereof.

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